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PHILOSOPHICAL  
TRANSACTIONS,  
OF THE  
ROYAL SOCIETY  
OF  
LONDON.

FOR THE YEAR MDCCCXVII.

PART I.

LONDON,

PRINTED BY W. BULMER AND CO. CLEVELAND-ROW, ST. JAMES'S;  
AND SOLD BY G. AND W. NICOL, PALL-MALL, BOOKSELLERS TO HIS MAJESTY,  
AND PRINTERS TO THE ROYAL SOCIETY.

MDCCCXVII.

## ADVERTISEMENT.

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THE Committee appointed by the *Royal Society* to direct the publication of the *Philosophical Transactions*, take this opportunity to acquaint the Public, that it fully appears, as well from the council-books and journals of the Society, as from repeated declarations which have been made in several former *Transactions*, that the printing of them was always, from time to time, the single act of the respective Secretaries, till the Forty-seventh Volume: the Society, as a Body, never interesting themselves any further in their publication, than by occasionally recommending the revival of them to some of their Secretaries, when, from the particular circumstances of their affairs, the *Transactions* had happened for any length of time to be intermitted. And this seems principally to have been done with a view to satisfy the Public, that their usual meetings were then continued, for the improvement of knowledge, and benefit of mankind, the great ends of their first institution by the Royal Charters, and which they have ever since steadily pursued.

But the Society being of late years greatly enlarged, and their communications more numerous, it was thought advisable that a Committee of their members should be appointed, to reconsider the papers read before them, and select out of them such as they should judge most proper for publication in the future *Transactions*; which was accordingly done upon the 26th of March, 1752. And the grounds of their choice are, and will continue to

be, the importance and singularity of the subjects, or the advantageous manner of treating them ; without pretending to answer for the certainty of the facts, or propriety of the reasonings, contained in the several papers so published, which must still rest on the credit or judgment of their respective authors.

It is likewise necessary on this occasion to remark, that it is an established rule of the Society, to which they will always adhere, never to give their opinion, as a Body, upon any subject, either of Nature or Art, that comes before them. And therefore the thanks, which are frequently proposed from the Chair to be given to the authors of such papers as are read at their accustomed meetings, or to the persons through whose hands they receive them, are to be considered in no other light than as a matter of civility, in return for the respect shewn to the Society by those communications. The like also is to be said with regard to the several projects, inventions, and curiosities, of various kinds, which are often exhibited to the Society; the authors whereof, or those who exhibit them, frequently take the liberty to report, and even to certify in the public news-papers, that they have met with the highest applause and approbation. And therefore it is hoped, that no regard will hereafter be paid to such reports, and public notices ; which in some instances have been too lightly credited, to the dishonour of the Society.

# CONTENTS.

---

- I. *An Account of the circulation of the blood in the class Vermes of Linnæus, and the principle explained in which it differs from that in the higher classes.* By Sir Everard Home, Bart.  
*V. P. R. S.* - - - - - p. 1
- II. *Observations on the Hirudo vulgaris.* By James Rawlins Johnson, M. D. F. L. S. &c. Communicated by the Right Hon. Sir Joseph Banks, Bart. G. C. B. P. R. S. 13
- III. *On the effects of galvanism in restoring the due action of the lungs.* By A. P. Wilson Philip, Physician in Worcester. Communicated by Sir Everard Home, Bart. V. P. R. S. 22
- IV. *An Account of some experiments on the Torpedo electricus, at La Rochelle.* By John T. Todd, Esq. Communicated by Sir Everard Home, Bart. V. P. R. S. - - - 32
- V. *A description of a process, by which corn tainted with Must may be completely purified.* By Charles Hatchett, Esq. F. R. S. In a Letter addressed to the Right Honourable Sir Joseph Banks, Bart. G. C. B. P. R. S. - - 36
- VI. *Observations on an astringent vegetable substance from China.* By William Thomas Brande, Esq. Sec. R. S. - 39
- VII. *Some researches on flame.* By Sir Humphry Davy, LL.D. F. R. S. V. P. R. I. - - - 45

- VIII. *Some new experiments and observations on the combustion of gaseous mixtures, with an account of a method of preserving a continued light in mixtures of inflammable gases and air without flame.* By Sir Humphry Davy, F. R. S. LL. D. V. P. R. I. - - - - 77
- IX. *De la structure des vaisseaux Anglais, considérée dans ses derniers perfectionnements.* Par Charles Dupin, Correspondant de l'Institut de France, &c. Communicated by the Right Hon. Sir Joseph Banks, Bart. G. C. B. P. R. S. - 86
- X. *On a new fulminating Platinum.* By Edmund Davy, Esq. Professor of Chemistry, and Secretary to the Cork Institution. Communicated by Sir H. Davy, LL. D. F. R. S. V. P. R. I. 136
- XI. *On the parallax of the fixed stars.* By John Pond, Esq. Astronomer Royal, F. R. S. - - - 158
- Appendix to Mr. Pond's Paper on Parallax.* - 173
- XII. *An Account of some fossil remains of the Rhinoceros, discovered by Mr. Whitby, in a cavern inclosed in the lime-stone rock, from which he is forming the Break-water at Plymouth.* By Sir Everard Home, Bart. V. P. R. S. - 176
- Meteorological Journal* - - - - 1

The PRESIDENT and COUNCIL of the ROYAL SOCIETY adjudged the Gold and Silver Medals on COUNT RUMFORD's Donation, to SIR HUMPHRY DAVY, LL. D. F. R. S. for his Papers on Combustion and Flame, published in the last Volume of the Philosophical Transactions.

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# C O N T E N T S.

---

- XIII. *Description of a thermometrical barometer for measuring altitudes. By the Rev. Francis John Hyde Wollaston, B. D. F. R. S.* - - - - - 183
- XIV. *Observations on the Analogy which subsists between the Calculus of Functions and other branches of Analysis. By Charles Babbage, Esq. M. A. F. R. S.* - 197
- XV. *Of the construction of Logarithmic Tables. By Thomas Knight, Esq. Communicated by Taylor Combe, Esq. Sec. R. S.* 217
- XVI. *Two general propositions in the method of differences. By Thomas Knight, Esq. Communicated by Taylor Combe, Esq. Sec. R. S.* - - - - - 234
- XVII. *Note respecting the demonstration of the binomial theorem inserted in the last volume of the Philosophical Transactions. By Thomas Knight, Esq. Communicated by Taylor Combe, Esq. Sec. R. S.* - - - - - 245
- XVIII. *On the passage of the ovum from the ovarium to the uterus in women. By Sir Everard Home, Bart. V. P. R. S.* 252
- XIX. *Some farther observations on the use of Colchicum Autumnale in Gout. By Sir Everard Home, Bart. V. P. R. S.* 262
- XX. *Upon the extent of the expansion and contraction of timber in different directions relative to the position of the medulla of the tree. By Thomas Andrew Knight, Esq. F. R. S. In a Letter addressed to the Right Hon. Sir Joseph Banks, Bart. G. C. B. P. R. S.* - - - - - 269

- XXI. *Observations on the temperature of the ocean and atmosphere, and on the density of sea-water, made during a voyage to Ceylon. In a Letter to Sir Humphry Davy, LL. D. F. R. S. By John Davy, M. D. F. R. S.* - 275
- XXII. *Observations on the genus Ocythoë of Rafinesque, with a description of a new species. By William Elford Leach, M. D. F. R. S.* - - - - 293
- XXIII. *The distinguishing characters between the ova of the Sepia, and those of the vermes testacea, that live in water, explained. By Sir Everard Home, Bart. V. P. R. S.* 297
- XXIV. *Astronomical observations and experiments tending to investigate the local arrangement of the celestial bodies in space, and to determine the extent and condition of the Milky Way. By Sir William Herschel, Knt. Guelp. LL. D. F. R. S.* 302
- XXV. *Some account of the nests of the Java swallow, and of the glands that secrete the mucus of which they are composed. By Sir Everard Home, Bart. V. P. R. S.* 332
- XXVI. *Observations on the Hirudo complanata, and Hirudo stagnalis, now formed into a distinct genus under the name, GLOSSOPORA. By Dr. Johnson, of Bristol. Communicated by Sir Everard Home, Bart. V. P. R. S.* - 339
- XXVII. *Observations on the gastric glands of the human stomach, and the contraction which takes place in that viscus. By Sir Everard Home, Bart. V. P. R. S.* - 347
- XXVIII. *On the parallax of the fixed stars. By John Pond, Esq. Astronomer Royal.* - - - - 353
- Presents received by the Royal Society from November 1816 to July 1817* - - - - 363
- Index*